The Institute Spokesman

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Standardization Activities Under Way

By M. B. CHITTICK

Chairman Standards and Specifications Committee

As you well know, the matter of developing a classification of greases by consistencies has been discussed on numerous occasions and over a long period of time, but like the weather which Mark Twain spoke of, everybody has talked about it, but nobody has done anything to bring order out of the present chaotic conditions existing in the marketing of greases.

Your chairman has had, the past few months, a great many informal conferences with many of the grease manufacturers, as well as some of the consumers, and the outcome has been a tentative classification of greases by consistencies, which has had informal approval among the individuals with whom it has been discussed. This classification, also, has been checked against the survey of greases produced domestically and it is felt that the classification suggested will be generally acceptable and will not work any hardship on any manufacturer. I am giving you, herewith, the first classification developed, which is based on the A. S. T. M. worked penetration:

No. 0	350-390
No. 1	305-345
No. 2	260-300
No. 3	215-255
No. 4	170-210
No. 5	125-165
No. 6	80-120

After discussing this informally with several manufacturers and consumers, the general criticism was that the limit set in the above classification of forty points was too broad and that this should be narrowed down to thirty points. I am, therefore, giving, herewith, for your consideration, comments, and criticism, the following classification:

No. 0	355-385
No. 1	310-340
No. 2	265-295
No. 3	220-250
No. 4	175-205
No. 5	130-160
No. 6	85-115

May I point out to you that this classification gives a gap between each grade, so that there is no possibility of over-lapping of grades, and from a marketing standpoint this seems highly desirable as it will eliminate the substitution of one grade for another and will, therefore, further tend to eliminate some of the misunderstandings and chaos that have existed in the past in the marketing of greases.

The point has been raised by several manufacturers, that the above classification does not provide for the half grades, which are called for in some isolated industrial specifications, and, particularly, in some export trade. These criticisms have been met with the argument that half grades were not necessary and that the classification given would provide greases of proper consistency to lubricate any job that is at present lubricated with the so-called half grade. One of the largest manufacturers, who raised this objection, however, pointed out the fact that there was distinct advantage in eliminating these half grades and that is the fact that it would not be necessary to carry inventories of the half grades, which from the stock standpoint, is highly desirable. As regards the export trade, it is understood, of course, that this classification is anticipated as a commercial standard for the domestic market alone, sponsored by the National Lubricating Grease Institute.

There has, also, been some criticism on setting of worked penetration for a grease as heavy, particularly, as the No. 6 grade. However, the facts of the case are that it is physically possible to determine the worked consistency of this grease, and, therefore, this should be retained in the classification for referee work, but some co-operative work between the various members' laboratories will soon be undertaken to also set up

(Continued on Page 3)

A REQUEST FROM THE PRESIDENT

This is a personal message to the Grease Industry as a whole, to both members and non-members of the "Institute".

Mr. Chittick as Chairman of the Technical Committee, along with the members of this committee has given considerable time and effort in developing this classification of greases. It is a fine start, as Mr. Chittick states "to bring order out of the present chaotic conditions existing in the marketing of greases and a clearer understanding between manufacturer and consumer." No one can deny that such a condition exists and must be corrected. This is the first step toward a sound coordination of objectives and should receive your hearty cooperation.

Anything that will benefit the industry as a whole will benefit the individual to a greater extent. We particularly call your attention to the last paragraph of this report. Address your replies to Mr. M. B. Chittick, 5 E. Wacker Drive, Chicago, Ill. We look forward to your early approval.

G. W. Miller,
President.

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6th Annual Convention
NATIONAL LUBRICATING GREASE INSTITUTE

WHEN . . . . October 3-4, 1938

WHERE . . . Stevens Hotel, Chicago, Ill.

Arrangements have been completed to hold the 6th Annual Convention of the National Lubricating Grease Institute, at the Stevens Hotel, Chicago, Ill., October 3rd and 4th.

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Although previous conventions of the "Institute" have left nothing to be desired from the type of program presented and the record of attendance, the "6th" will outshine them all.

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The Convention committee headed by H. F. Wilhelm, F. C. Kerns and M. R. Bowes, has arranged a very fine program of subjects on information pertinent to the grease industry as a whole. There will be technical papers on raw materials, grease manufacture, merchandising, application and use, both automotive and industrial, equipment and its use, both automotive and industrial, along with the views of the user or consumer of the various products we manufacture. Speakers are all men of national prominence and "tops" in their respective fields.

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In conjunction with this very fine program there will be an exhibition by Associate Members of the Institute. Here is an opportunity to see what is new in the line of products of every day interest to the Grease Industry.

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Last but not least—the Annual Banquet will be held Monday evening, October 3rd. A fine menu is assured and entertainment par excellence.

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Watch your trade journals for further announcements. A complete program will be released in the SEPTEMBER issue of the SPOKESMAN.

Material appearing in The Institute Sp *be Repr*

Lubricate for SAFETY every 1,000 MILES

The INSTITUTE SPOKESMAN

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GEORGE W. MILLER . . . *Editor*
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(Continued from Page 1)

under this classification equivalent unworked penetration limit for the two heavier grades.

It is anticipated that the suggested classification will cover all greases not only automotive, but industrial as well, and furthermore all greases irrespective of the metallic soaps or other bases used in their manufacture.

Please understand that this project is still in tentative form and at the present time is passed on to you for informal study and with the request, at your earliest convenience, you give this matter your consideration and let me have your comments, criticisms, and any other suggestions in connection with it that you may feel are pertinent to the problem. I should like to have your replies by not later than September 10th, so that this matter can be whipped into final stage for presentation to the Institute at their annual meeting the third and fourth of October.

*Latest Car Manufacturers' Recommendations**

New Fitting Kills Control Arm Squeak

Knee action control arms on Oldsmobile, Buick and Pontiac have caused many lubemen headaches. Because of a construction peculiarity, these points are usually screaming for lubricant within 500 miles. The arms in action create a pumping effect which squeezes lubricant out of the joints on 1936 and 1937 models. Design correction has eliminated the trouble on later models.

Lubrication fittings to eliminate this trouble are available. To install, remove the fittings on inner side of lower control arm and replace by threading in adapters.

The caps are screwed in and once filled, inner springs feed lubricant to the joints as required, eliminating squeaks for at least 1000 miles.

These fittings are also adaptable to Packard Six and 120 models for use on king pins and rear shackles.

BUICK—1937 MODELS. The clutch release bearing on these models is packed with high melting point lubricant at the time of assembly and no means is provided for adding lubricant to the bearing itself. A fitting was provided at the bottom of the assembly on a few 1937 cars, for adding lubricant to the clutch release bearing sleeve or carrier, in case of emergency. On cars so equipped, the fitting may be reached by removing the clutch housing pan. On most of 1937 production, however, the fitting is located on the top of the assembly and is not accessible for adding lubricant to the carrier. The Buick Service Department has found that in ninety-nine cases out of a hundred this bearing carrier has never required additional lubrication and experience has proven the clutch squeaks to be due to squeaking of the clutch finger pivots or the clutch driving lugs. These points should be serviced at an authorized Buick Service Station.

BUICK 40—1938—SELF-SHIFTING TRANSMISSION. The manufacturer has changed the lubrication recommendations for these units as follows: "Same recommendations as for engine crankcase except for temperatures above 32 deg. F., use SAE 30. For extremely high temperatures or high speed driving, use SAE 40."

DODGE TRUCKS (RE, RF, RG)—1938. The manufacturer has recently issued the following changes in lubricant recommendations for these models: "Universal Joints—The recommendation of Wheel Bearing Grease for these units has been changed to Fluid Gear Lubricant. Universal Joint Spline—Semi-fluid Chassis Lubricant is now recommended for spline lubrication instead of Wheel Bearing Grease."

HUDSON 6, HUDSON TERRAPLANE—1938. Starting with Engine No. 43845, the capacity of the crankcase is 4½ qt. instead of 5 qt. This change is due to the use of a new design of engine oil pan.

HUDSON AND TERRAPLANE — ALL MODELS 1934-37. The manufacturer has made the 1938 differential recommendation of Extreme Pressure Lubricant SAE 90 EP for all seasons, retroactive through 1934.

HUPMOBILE—ALL MODELS. The manufacturer has changed the temperature ranges for Engine Oil recommendations, and the following recommendations apply to all models for all years:

Over 90 deg. F.	SAE 40
As low as 32 deg. F.	SAE 30
As low as +10 deg. F.	No. 20W
As low as —10 deg. F.	No. 10W

HUPMOBILE—ALL MODELS WITH HYPOID GEARS. Hupmobile has changed the lubricant recommendation for Hypoid geared rear axles to read as follows:

"Extreme Pressure Hypoid Lubricant made by any reputable refiner.

Above 0 deg. F.	SAE 90
Below 0 deg. F.	SAE 80"

The above recommendation applies to present and previous years' models that are equipped with Hypoid gears.

Previous to this change Hupmobile would sanction the use of only such lubricants as were approved by them.

WILLYS 38—1938. Needle type universal joints are used on late 1938 production. These joints are packed with lubricant at assembly and have no removable plug for use in adding lubricant. Lubrication is required at intervals of approximately 30,000 miles, at which time they should be disassembled and repacked with Fiber Universal Joint Grease. As a precaution against the leather boot being damaged, an inspection should be made of this every 1,000 miles.

Willys now recommends 30 pounds instead of 28 pounds for rear tire inflation pressure for the Willys 38 model.

Ford V-8 Trucks With Two-Speed Axles Announced

Two-speed-axle-equipped Ford V-8 trucks are now available. The 157-inch and 134-inch wheelbase trucks are now offered with this special Ford axle, as well as the 191-inch wheelbase school bus chassis.

The new Ford two-speed rear axle has virtually the same basic features of design as the conventional Ford truck axle. An internal gear is made integral with the ring gear, which is an exceptionally sturdy forging. It is because of the massiveness of the ring gear that the ring gear thrust plate, a feature of the conventional Ford truck axle, is not required. Bronze thrust washers are used for the differential side gears and the bevel pinions to prevent galling. The control for the two-speed axle consists of a lever mounted in the cab to the left of the driver's seat. With the control lever in the forward position, the high axle ratio is in use, at which time the axle operates exactly the same as the conventional one-speed axle.

The two-speed axle has been designed with a novel method for providing forced lubrication to the bearings. The lubricant is raised from the bottom of the housing by a revolving drum attached to the side of the ring gear and distributed to the bearings by tubes. Differential and planetary gears are constantly immersed in oil as they rotate and lubricant is also supplied to the lefthand differential side bearing by the rotation of the assembly.

The lubricant capacity of the two-speed axle is 7½ qt. (15 pt. or lb.) and Mild

(Continued on Page 4)

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(Continued from Page 3)

Extreme Pressure Gear Lubricant—SAE 160EP for temperatures above 32 deg. F. and SAE 90EP or 110EP.

Clutch Helper Spring Squeak All 1938 Pontiac Cars

The clutch helper spring may squeak after the initial lubrication applied at the factory has washed or worn off. The remedy is to thoroughly oil the parts, making sure that the felt on the strut is saturated. Thoroughly lubricate at all points marked "O" in the illustration.

New Chevrolet Water Pump

A new type of ball bearing water pump, which requires no lubrication, is now being used in production on Chevrolet passenger cars and trucks. Assemblies started the first part of May. This new design may also be used as a replacement unit on 1937 models; when so used, new fan blades are required.

On the new pump the shaft and double-row ball bearing are integral. The bearing is packed with a high melting point grease at the time of manufacture and requires no further lubrication. The ends of the bearing are sealed to retain lubricant and prevent dust and dirt from entering.

The shaft and bearing are retained in the housing by a metal cap which is a press fit on the housing. The thrust washer has two lugs which fit into two slots in the end of the rotor. One side of the thrust washer bears against the ground thrust surface of the pump housing and the other against the seal. The rubber seal bears against the machined surface on the inside of the rotor and also against the thrust washer. A coil spring mounted inside and an integral part of the seal, maintains a constant pressure against the thrust washer and rotor, assuring a positive seal. An air vent on the top of the housing and a drain hole on the bottom prevents any water seepage past the thrust washer from entering the bearing.

New Ford C. O. E. Trucks

Introduced in response to a definite demand for a Ford V-8 unit of this type, the new cab-over-engine truck is available in two wheelbase lengths, 101 in. and 134 in.

Construction of the cab-over-engine truck is the same as that of conventional models except for changes made necessary by the cab-over-engine design. Most major parts such as power plant, rear axle, rear springs, steering gear, etc., are interchangeable.

A foreshortened hood, carrying the distinctive Ford oval truck grille, adorns the front end of the truck. At the top of the grille is the V-8 emblem. Combined with and partially concealed by the emblem is the radiator cap. This arrangement permits filling radiator without raising hood.

The forward position of the cab makes it necessary to locate the steering column farther forward. As a result, the base of the column is ahead of the axle and the drag link runs rearward to it.

Due to the fact that the load center is farther forward, also that the cab is more directly over the axle, a front end assembly of greater ruggedness and strength is used. This consists of a larger axle and two longitudinal springs. Front spring eye pins and spring shackle are pre-lubricated and require no lubrication; brackets are rigidly mounted to the side of the frame channels.

The 101 in. chassis uses only one universal joint. The 134 in. wheelbase uses two universal joints.

Fuel and oil, as well as water, are replenished without raising the hood or opening the engine cover. The fuel filler tube extends outside the cab at the right rear corner while the oil filler cap protrudes through the engine cover inside the cab. An opening or hand hole is provided in the side of the engine cover above the oil level measuring rod for checking the oil level.

Buick Crankcase Ventilator Inlet Filter

In cleaning the crankcase ventilator inlet filter (cleaner element) on Buick cars, care should be taken in reinstalling the ventilating cover plate. Make certain that the louvers point downward. The cleaner element should be washed in gasoline and then dipped in SAE 50 Engine Oil each time the carburetor air cleaner is serviced, or more often if cars are operated during sand or dust storms.

The ventilator filter will be found at the rear left side of the cylinder block on the 40 series, and at the front left side, just back of the generator on series 60, 80 and 90.

Chrysler, DeSoto, Dodge, Plymouth. All models with Hypoid Gears. The manufacturer has made the 1938 mileage interval recommendation for hypoid rear axles, retroactive to include all models for all years which are equipped with hypoid gears. Accordingly, change the mileage symbol at the Differential point on your charts covering these models to show 10,000 instead of 6,000 miles.

Lincoln Zephyr—1938. The manufacturer has changed the recommended lubricant capacity for the two-speed rear axle, available as special equipment, from 4½ pt. or lb. to 5 pt. or lb. Please make this change in Note G on your chart covering this model.

Packard 12—1937-38. Packard's latest recommendation for universal joint lubrication on these models is Fluid Gear Lubricant SAE 160 every 10,000 miles, through fitting. The fitting on these models is equipped with a relief valve and experience has proved that there is no danger of over-lubrication.

Oldsmobile Automatic Transmission

Many cars equipped with the automatic transmission are driven more than 10,000 miles before the oil in the transmission is changed. In some instances oil of improper quality or viscosity, or oil contaminated with sludge, metal and paint particles is allowed to remain in the transmission. Any or all of these conditions are very likely to cause improper operation of, or damage to, the transmission if allowed to continue indefinitely.

As a means of preventing these conditions, it is recommended that the oil not only be changed at the end of the first 5,000 miles and every 10,000 miles thereafter, but that the transmission be flushed (cleaned) out with flushing oil at these same mileage intervals. The servo band adjustment can be made at the same time. This work should be performed in an Oldsmobile service station that is provided with mobile service station provided with detailed instructions for making the adjustment.

Buick (40)—1934-35. Change Cooling System capacity from 12¼ to 13¼ qt. for 1935 model. All capacities are the same for 1934 and 1935 model.

Packard Six and 8—1938; Six and 120-C—1937. Universal Joints. Packard has changed the lubricant recommendation for universal joints on these models from Fluid Gear Lubricant SAE 160 to Chassis Lubricant or No. 2½ Cup Grease. Recommended mileage interval for universal joint lubrication is now 30,000 miles on both 1938 and 1937 models.

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